

U.S. Application Serial No.: 10/644,569
Amendment Dated September 21, 2006
In response to Office Action Dated June 21, 2006

REMARKS

Claims 1-28 are in this application.

Claim 2 has been canceled.

Claims 1 and 28 are amended.

Claims 1 and 3-28 are currently pending in this application.

Claims 1-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite.

Claim 2 has been canceled. Therefore, its rejection is moot.

Claim 2 was canceled and its contents were incorporated into claim 1. Claim 1, as amended, clearly defines the technical features of the color alteration on the test strip, i.e., the detectable color change. The color alteration on the test strip results from having the microcapsule come into contact with a chemical, thereby releasing the encapsulated dye precursor from the microcapsule. This allows the dye precursor to react with the developer, thereby producing the color alteration of the test strip.

Claim 1 was further amended to define a "color forming composition comprising a dye precursor encapsulated in a microcapsule having a shell." Thus, claim 1 defines that any type of microcapsule is suitable for use provided that it has a shell to enclose

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the color forming composition which comprises a dye precursor encapsulated in a microcapsule having a shell, a developer and, optionally, a filler.

Claims 8-22 depend directly or indirectly from claim 1 and, as such, are not indefinite because claim 1, as amended, clearly defines the technical features of the color alteration on the test strip. Claims 8-22 define various embodiments that produce the producing the color alteration of the test strip by employing a variety of color forming chemistries known to a person skilled in the chemistry of dye formation.

Claim 28 was amended by changing "encapsulated dye" to "microcapsule encapsulating said dye" such that claim 28 defines that the "microcapsule encapsulating said precursor dye has a microcapsule shell material selected from the group consisting of...."

Claim 28 is not indefinite because it clearly defines that the microcapsule encapsulating the precursor dye has a microcapsule shell material selected from the group consisting of the listed materials.

Claim 28 was further amended to correct a typographical error by changing polyvinylidene fluoride, , , vinylidene fluoride terpolymer," to "polyvinylidene fluoride, vinylidene fluoride terpolymer."

In view of the above amendments and remarks, the rejection of claims 1-28 under 35 U.S.C. 112, second paragraph, as being indefinite should be withdrawn and claims 1 and 3-28 should be allowed.

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Claims 1-13, 15, 18-22, and 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,931,420 to Asano et al., herein after Asano et al.

Asano et al. describes a temperature history indicator that operates by an entirely different principle than the present invention. Asano et al. describes a temperature history indicator in which the color change is triggered by heat. Thus, in the Abstract, Asano et al. describes the temperature history indicator as follows:

“...when temperature rises higher than a certain value, a hydrophobic organic compound enclosed in microcapsules melts and diffuses causing a dye-precursor and a color developer, which are prepared independently of the compound, to be contacted with each other to irreversibly achieve color development or change, that this color development or change system is rendered operative when the temperature rise continues to exceed a permissible time period...”

In contrast, instant claim 1 is a method of detecting leakage of a chemical. Claim 1 defines the technical features of the color alteration on the test strip as resulting from having the microcapsule come into contact with the chemical, thereby releasing the encapsulated dye precursor from the microcapsule. This allows the dye precursor to react with the developer, thereby producing the color alteration of the test strip.

There is no teaching or suggestion in Asano et al. that the color alteration on the test strip as resulting from having the microcapsule come into contact with a leaking chemical. Therefore, all the claim limitations of instant claim 1 have not been met by the cited reference. Accordingly, rejection of claims 1-13, 15, 18-22, and 24-26 under 35 U.S.C. 102(b) as being anticipated by Asano et al. should be withdrawn and claims 1, 3-13, 15, 18-22, and 24-26 should be allowed.

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Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,888,631 to Sturzinger, herein after Sturzinger.

Sturzinger describes also a temperature indicator that operates by an entirely different principle than the present invention. Sturzinger describes a temperature indicator in which the color change is triggered also by heat. Thus, in the Abstract, Sturzinger describes the temperature indicator as follows:

A temperature indicator or monitor for deep frozen products, comprising paper-like fibrous material containing a binder and two water soluble colorless reagents. At least one of the reagents is encapsulated in microcapsules in the form of an aqueous solution which is still liquidous below 0 °C, and wherein such reagent upon rupture of the capsules, which occurs at a temperature range in the order of 4 °C to 0 °C, combines with the other reagent to form a dye which permeates the fibers of the paper-like fibrous material and contrasts with its basic color.

In contrast, instant claim 1 is a method of detecting leakage of a chemical. As mentioned herein above, claim 1 defines the technical features of the color alteration on the test strip as resulting from having the microcapsule come into contact with the chemical, thereby releasing the encapsulated dye precursor from the microcapsule. This allows the dye precursor to react with the developer, thereby producing the color alteration of the test strip.

Applicants respectfully point out that the Office Action has incorrectly read the Sturzinger temperature indicator as being "... detection of a leak from the microcapsule."

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There is no teaching or suggestion in Sturzinger that the color alteration on the test strip as resulting from having the microcapsule come into contact with a leaking chemical. Therefore, all the claim limitations of instant claim 1 have not been met by the cited reference. Accordingly, rejection of claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Sturzinger should be withdrawn and claims 1 and 3-4 should be allowed.

In view of the foregoing, claim 1, and the claims depending directly or indirectly therefrom, are not anticipated by either Asano et al. or by Sturzinger and, as such, claim 1, and claims depending directly or indirectly therefrom are allowable.

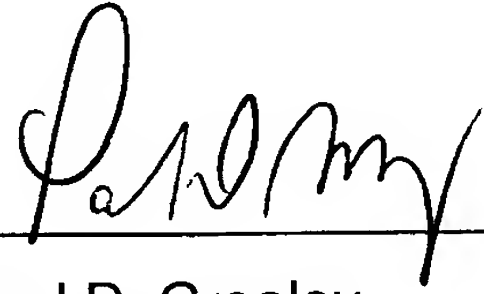
Accordingly, the rejections of claims 1-28 should be withdrawn and claims 1 and 3-28 should be allowed.

Applicants respectfully request reconsideration of this application, withdrawal of all rejections and allowance of claims 1 and 3-28.

Respectfully submitted,

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